

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-15. (Cancelled)

16. (Previously Presented) A method of treating filament yarn comprising:
supplying a plurality of yarn filaments through a yarn channel of a nozzle in a yarn travel direction; and
introducing a blowing medium into the yarn channel substantially in a direction of the yarn travel direction and at an angle of introduction of more than about 15° and less than about 45° from a direction perpendicular to the yarn travel direction,
wherein the plurality of yarn filaments are mixed within the yarn channel so as to produce a filament yarn substantially free of knots.

17. (Previously Presented) The method of claim 16, further comprising adding a preparation agent to at least some of the plurality of yarn filaments.

18. (Previously Presented) The method of claim 17, wherein adding the preparation agent includes adding the preparation agent prior to introducing the blowing medium into the yarn channel.

19. (Previously Presented) The method of claim 17, wherein adding the preparation agent includes adding the preparation agent to the yarn channel via the blowing medium.

20. (Previously Presented) The method of claim 17, wherein adding the preparation agent includes adding the preparation agent to the yarn channel at a location either downstream or upstream from a location at which the blowing medium enters the yarn channel.

21. (Previously Presented) The method of claim 19, wherein adding the preparation agent includes introducing the preparation agent into the blowing medium at a location at which the blowing medium enters the yarn channel.

22. (Previously Presented) The method of claim 19, wherein adding the preparation agent includes introducing the preparation agent into the blowing medium at a location prior to the blowing medium entering the yarn channel.

23. (Previously Presented) The method of claim 16, wherein the blowing medium is compressed air having a pressure of less than about 6 bar.

24. (Previously Presented) The method of claim 16, wherein introducing the blowing medium includes introducing the blowing medium into a first half of the yarn

channel as measured from a location where the plurality of yarn filaments enter the yarn channel.

25. (Previously Presented) The method of claim 16, wherein introducing the blowing medium includes introducing the blowing medium into a first third of the yarn channel as measured from a location where the plurality of yarn filaments enter the yarn channel.

26. (Previously Presented) The method of claim 16, wherein introducing the blowing medium includes aiming the blowing medium substantially at a center line of the yarn channel.

27. (Previously Presented) The method of claim 16, wherein the blowing medium is compressed air having a pressure of less than about 1.5 bar.

28. (Previously Presented) The method of claim 27, wherein introducing the blowing medium includes introducing the blowing medium at an angle of introduction ranging from about 15 degrees to about 30 degrees from the direction perpendicular to the yarn travel direction.

29. (Previously Presented) The method of claim 16, wherein the blowing medium is steam having a pressure of ranging from between about 4 bar to about 10 bar.

30. (Previously Presented) The method of claim 29, wherein introducing the blowing medium includes introducing the blowing medium at an angle ranging from about 25 degrees to about 45 degrees from the direction perpendicular to the yarn travel direction.

31. (Previously Presented) The method of claim 16, further comprising performing a filament spinning operation on the plurality of yarn filaments.

32. (Currently Amended) An apparatus for treating filament yarn, comprising:
a nozzle defining a yarn channel configured to receive a plurality of yarn filaments and a compressed medium feed channel opening into the yarn channel and oriented so as to introduce medium into the yarn channel approximately in a direction of yarn travel through the yarn channel,

wherein the compressed medium feed channel is disposed at an angle of greater than about ~~[[15]]~~ 20 degrees and less than about 45 degrees from a direction perpendicular to the direction of yarn travel or to a longitudinal center axis of the yarn channel.

33. (Previously Presented) The apparatus of claim 32, wherein the yarn channel widens at an angle ranging from about 0 degrees to about 10 degrees from the yarn travel direction of the plurality of yarn filaments.

34. (Currently Amended) ~~The~~ An ~~apparatus of claim 32, for treating filament yarn,~~
comprising:

a nozzle defining a yarn channel configured to receive a plurality of yarn
filaments and a compressed medium feed channel opening into the yarn channel and
oriented so as to introduce medium into the yarn channel approximately in a direction of
yarn travel through the yarn channel,

wherein the compressed medium feed channel is disposed at an angle of greater
than about 15 degrees and less than about 45 degrees from a direction perpendicular to
the direction of yarn travel or to a longitudinal center axis of the yarn channel,

wherein the yarn channel widens at an angle ranging from about 1 degree to
about 6 degrees from the yarn travel direction of the plurality of yarn filaments.

35. (Previously Presented) The apparatus of claim 32, wherein the nozzle
includes a nozzle plate and a baffle plate.

36. (Previously Presented) The apparatus of claim 35, further comprising a
threading slot extending approximately a length of the yarn channel.

37. (Previously Presented) The apparatus of claim 36, wherein the threading slot
is disposed in a plane of separation between the nozzle plate and the battle plate.

38. (Currently Amended) ~~The~~ An ~~apparatus of claim 32, for treating filament yarn,~~
comprising:

a nozzle defining a yarn channel configured to receive a plurality of yarn filaments and a compressed medium feed channel opening into the yarn channel and oriented so as to introduce medium into the yarn channel approximately in a direction of yarn travel through the yarn channel,

wherein the compressed medium feed channel is disposed at an angle of greater than about 15 degrees and less than about 45 degrees from a direction perpendicular to the direction of yarn travel or to a longitudinal center axis of the yarn channel,

wherein the nozzle comprises a plurality of nozzles.

39. (Currently Amended) ~~The~~ An apparatus of claim 32, for treating filament yarn, further comprising:

a nozzle defining a yarn channel configured to receive a plurality of yarn filaments and a compressed medium feed channel opening into the yarn channel and oriented so as to introduce medium into the yarn channel approximately in a direction of yarn travel through the yarn channel; and

a feed bore configured to introduce a preparation agent into the yarn channel,

wherein the compressed medium feed channel is disposed at an angle of greater than about 15 degrees and less than about 45 degrees from a direction perpendicular to the direction of yarn travel or to a longitudinal center axis of the yarn channel.

40. (Currently Amended) ~~The~~ An apparatus of claim 32, for treating filament yarn, further comprising:

a nozzle defining a yarn channel configured to receive a plurality of yarn filaments and a compressed medium feed channel opening into the yarn channel and oriented so as to introduce medium into the yarn channel approximately in a direction of yarn travel through the yarn channel; and

a feed bore configured to introduce a preparation agent into the compressed medium feed channel,

wherein the compressed medium feed channel is disposed at an angle of greater than about 15 degrees and less than about 45 degrees from a direction perpendicular to the direction of yarn travel or to a longitudinal center axis of the yarn channel.

41. (Previously Presented) The apparatus of claim 40, further comprising at least one pocket disposed in the yarn channel, and substantially opposite to the feed bore, wherein the pocket is configured to assist the feed bore in introducing the preparation agent.

42. (Currently Amended) ~~The~~ An apparatus of ~~claim 32,~~ for treating filament yarn, comprising:

a nozzle defining a yarn channel configured to receive a plurality of yarn filaments and a compressed medium feed channel opening into the yarn channel and oriented so as to introduce medium into the yarn channel approximately in a direction of yarn travel through the yarn channel,

wherein the compressed medium feed channel is disposed at an angle of greater than about 15 degrees and less than about 45 degrees from a direction perpendicular to the direction of yarn travel or to a longitudinal center axis of the yarn channel,

wherein the apparatus is configured to slightly cross the plurality of yarn filaments and to produce a filament yarn substantially free of knots.